SmartG100™

Manual

Development System

All MikroElektronika´s development systems represent irreplaceable tools for programming and developing microcontroller-based devices. Carefully chosen components and the use of machines of the last generation for mounting and testing thereof are the best guarantee of high reliability of our devices. Due to simple design, a large number of add-on modules and ready to use examples, all our users, regardless of their experience, have the possibility to develop their projects in a fast and efficient way.

MikroElektronika
SOFTWARE AND HARDWARE SOLUTIONS FOR EMBEDDED WORLD ...making it simple

SmartG100

SmartG100 is a full-featured development tool for the uBlox Leon-G100 GSM/GPRS module. This board has everything you need to create your own GSM-GPRS-based device.

Key features:

- Data transfer via uBlox Leon-G100 module;
- Microphone and speaker connectors;
- UART communication with microcontroller;
- 7-23V AC or 9-32V DC power supply voltage.

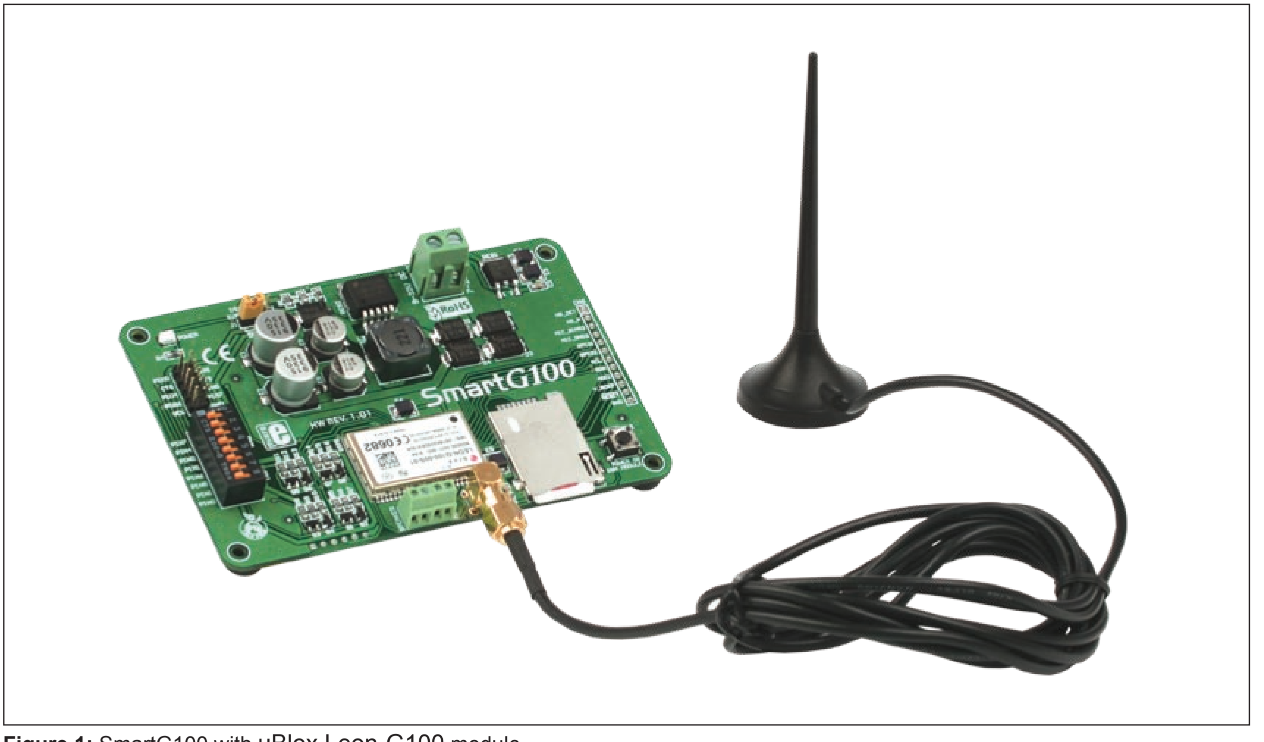


Figure 1: SmartG100 with uBlox Leon-G100 module

How to connect the board?

The SmartG100 is designed for use with Mikroelektronika's development systems. To make connection between development system and SmartG100 use flat cable with IDC10 connector and make connection between 2x5 male header on development system port and 2x5 male header CN1 on SmartG100. Which port on development system will be used depends on position of MCU pins which are used for UART communication. When connection is established, depending which development system is in use, turn ON appropriate switch on DIP switch SW1, Table 1.

Development system	SmartGM862 CN1 pin	UART pin
PIC/PIC18FJ	PIN7	RX
dsPIC30/33/PIC24	PIN4	RX
AVR/8051	PIN0	RX
ARM	PIN1	RX
PIC/PIC18FJ	PIN6	TX
dsPIC30/33/PIC24	PIN5	TX
AVR/8051	PIN1	TX
ARM	PIN0	TX

Table 1: DIP switch SW1 position

In order to supply SmartG100 with power it is necessary to connect external power supply via AC/DC connector CN1. Power supply voltage can be in range between 7 to 23V AC or 9 to 32V DC. As indication that power supply is connected LED marked with POWER will be turned on. To connect microphone with SmartG100 use screw terminal CN4 which is marked with MIC. On "GND" side of screw terminal connect minus phase, and on "IN" side connect plus phase of the microphone. In order to connect speaker use screw terminal CN5 marked with SPEAKER. "-" side of screw terminal is used for minus phase and "+" is used for plus phase of speaker. If you want to access Leon-G100 module pins on SmartG100 board you can use marked pads CN6. To power up Leon-G100 module is necessary to press and hold push button marked with "POWER ON GSM MODULE" for 1s.

How to use the board?

In order to use SmartG100 connect antenna with Leon-G100 module, Figure 1. Connect power supply via AC/DC connector and now connect SmartG100 with development system as described in previous section. Write program and upload it to MCU on development system. Program example can be found on:
http://www.mikroe.com/eng/products/view/526/smartg100-board/

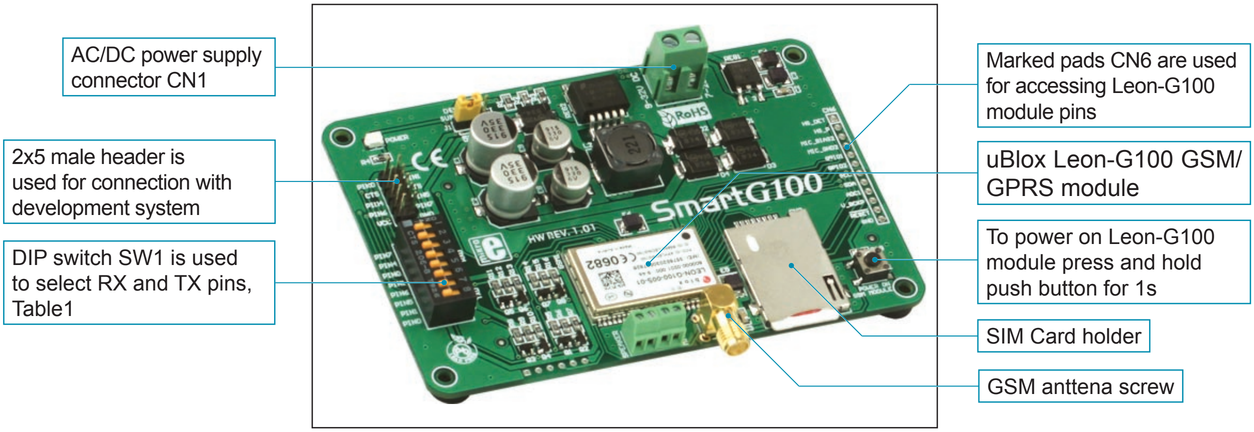


Figure 2: SmartG100

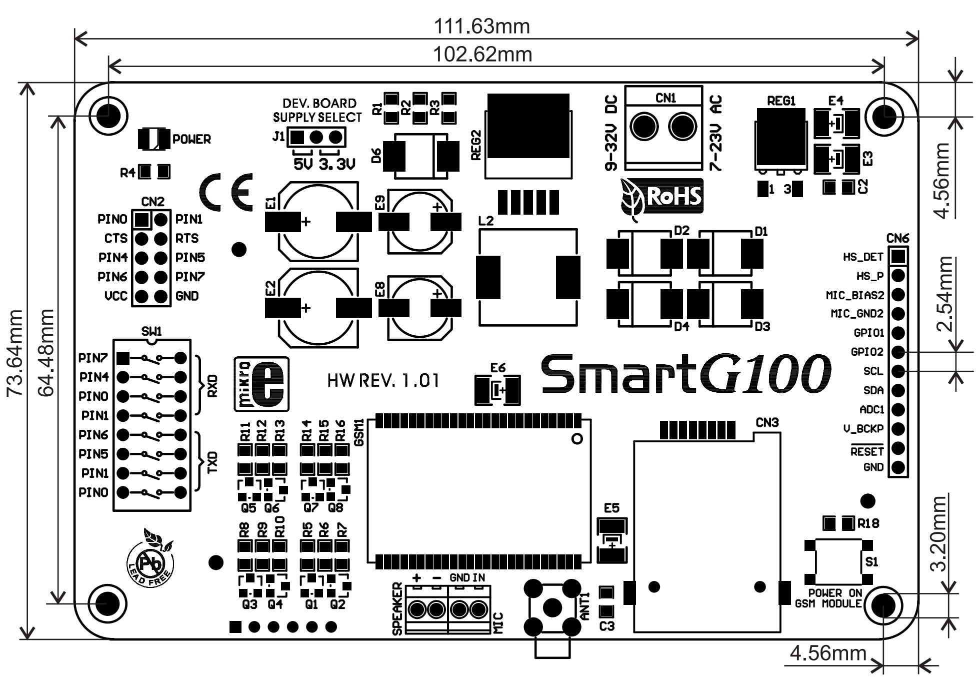


Figure 3: SmartG100 dimensions

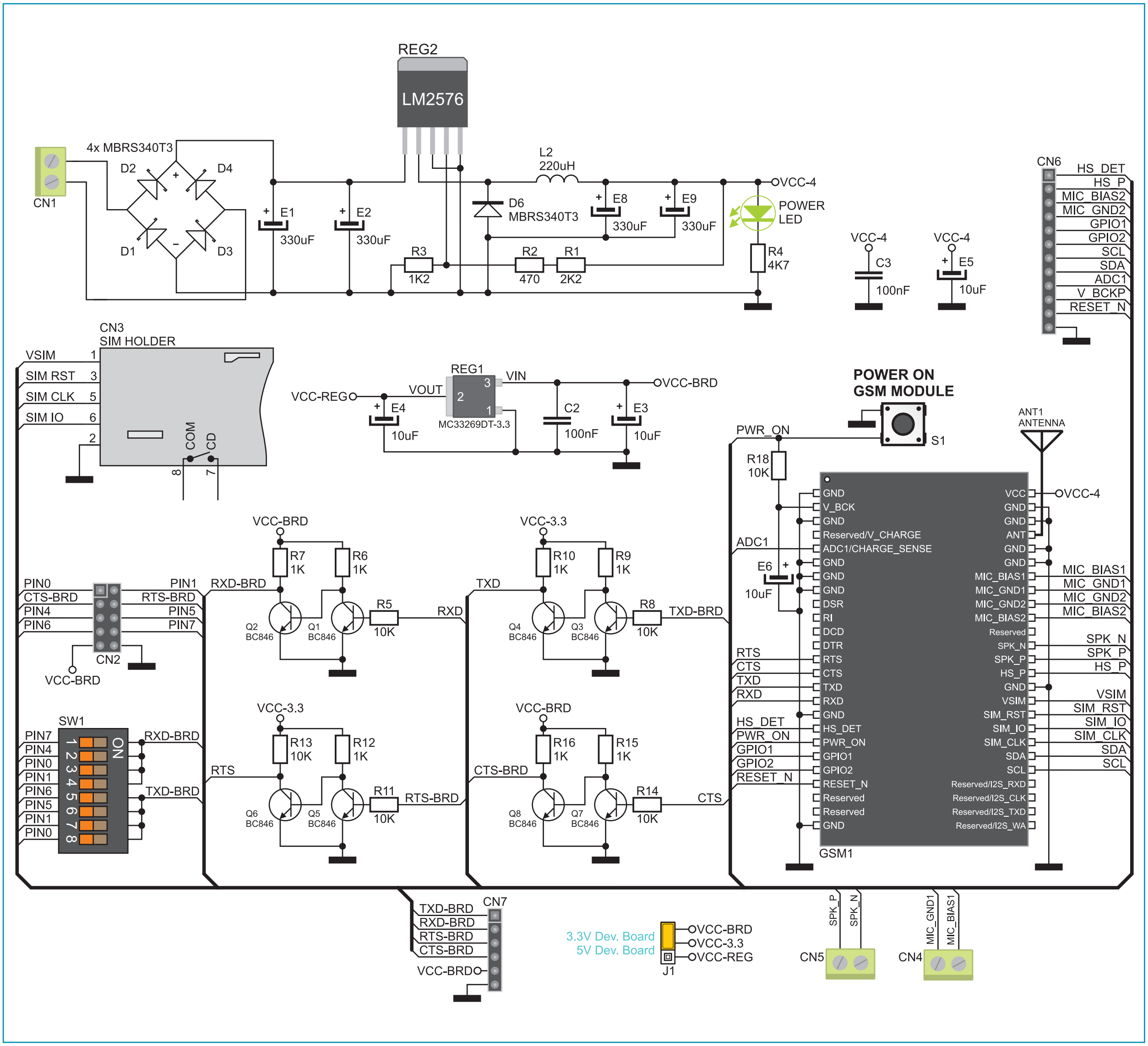


Figure 4: SmartG100 connection schematics